WHAT IS CLAIMED IS:

1. A network system operable to forward data within a computer network, the network system comprising:

a first router having a plurality of first logical interfaces corresponding to one or more physical ports of the network device, the first router being configured to enable the first logical interfaces when the first router is assigned to be a designated router and to disable the first logical interfaces when the first router is not assigned to be designated router;

a second router having a plurality of second logical interfaces corresponding to one or more physical ports of the network device, the second router being configured to enable the second logical interfaces when the second router is assigned to be a designated router and to disable the second logical interface when the second router is not assigned to be a designated router; and

a supervisor module configured to assign a selected one of the first and second routers to be a designated router,

wherein each first interface of the first router has a same internet protocol (IP) address and media access control (MAC) address as each corresponding second interface of the second router.

2. A network system as recited in claim 1, wherein

the first router is further configured to inform the second router about any change in a configuration of its first interfaces when it is assigned as the designated router and to change the configuration of its first interfaces to correspond to a change in configuration of the second interfaces when it is not assigned as the designated router and the second router

informs the first router of such a change in the configuration of the first interfaces so that the first interfaces have a same number and configuration as the second interfaces, and

the second router is further configured to inform the first router about any change in the configuration of its second interfaces when it is assigned as the designated router and to change the configuration of its second interfaces to correspond to a change in state of the first interfaces when it is not assigned as the designated router and the first router informs the second router of such a change in the configuration of the second interfaces so that the first interfaces have a same number and configuration as the second interfaces as the second interfaces.

3. A network system as recited in claim 2, further comprising a control bus for managing the first and second router and the supervisor module and a data bus through which data is received and transmitted into and out of the physical ports of the network device.

4. A network system as recited in claim 2, wherein the supervisor module is further configured to poll the currently assigned designated router to determine whether the designated router has failed and when the designated router has failed, to assign another of the routers to be a designated router.

5. A network system as recited in claim 2, wherein

the first router is further configured to enable the first interfaces by setting a link state of each first interface to an "up" value and to disable the first interfaces by setting a link state associated with each first interface to a "down" value, and

the second router is further configured to enable the second interfaces by setting a link state of each second interface to an "up" value and to disable the second interfaces by setting a link state associated with each second interface to a "down" value.

6. A network system as recited in claim 5, the first and second interfaces each have an associated administrative state that may be set by a user or the supervisor module to an "up" or "down" state to thereby enable or disable, respectively, the interface, wherein the first and second routers are both configured to maintain the same values for their interface's administrative states.

7. A network system as recited in claim 6, wherein

the first router is further configured to communicate to the second router a change of an administrative state of a selected first interface to a "down" value when the first router is assigned as the designated router and to change the administrative state of the selected first interface to a "down" state when the second router communicates that its corresponding second interface's administrative state has been changed to a "down" state, and

the second router is further configured to communicate to the first router a change of an administrative state of a selected second interface to a "down" value when the second router is assigned as the designated router and to change the administrative state of the selected second interface to a "down" state when the first router communicates that its corresponding first interface's administrative state has been changed to a "down" state.

8. A network system as recited in claim 5, wherein

the first router is further configured to enable a selected first interface when a new virtual local area network (VLAN) that corresponds to one or more physical ports and the

selected first interface is created in the supervisor module, a link state of the selected first interface being enabled by setting a corresponding link state to "up", when the first router is assigned as the designated router, and

the second router is further configured to enable a selected second interface when a new virtual local area network (VLAN) that corresponds to one or more physical ports and the selected second interface is created in the supervisor module, a link state of the selected second interface being enabled by setting a corresponding link state to "up", when the second router is assigned as the designated router

9. A network system as recited in claim 8, wherein the first router is configured to enable the selected first interface after the first router is informed that the new VLAN has been created and the second router is configured to enable the second first interface after the second router is informed that the new VLAN has been created.

10. A network system as recited in claim 1, further comprising a plurality of interface modules for interfacing with a plurality of physical ports, wherein the first and second interfaces of the first and second routers, respectively, each correspond to one or more of the physical ports.

11. A network system as recited in claim 1, wherein the supervisor module is configured with a plurality of VLAN's that each correspond to one or more physical ports.

12. A network system as recited in claim 1, wherein the first router and the second router are each configured to provide layer 3 switching when it is assigned as a designated router, and the supervisor module is configured to provide layer 2 switching.

13. A network system as recited in claim 1, wherein the first and second router appear together as a single router to other neighboring routers within the computer network.

14. A network system as recited in claim 1, wherein the supervisor module includes a first slot in which the first router is coupled and a second slot in which the second router is coupled.

15. A router redundancy system comprising:

a first network system as recited in claim 1 configured with a hot standby protocol; and

a second network system as recited in claim 1 configured with a hot standby router protocol,

wherein the first and second network systems are configured to act as an active router and a standby router within a hot standby router protocol group.

16. A method for providing data forwarding redundancy with a first router having a plurality of first logical interfaces corresponding to one or more physical ports of a network device, a second router having a plurality of first logical interfaces corresponding to one or more physical ports of the network device, and a supervisor module, the method comprising:

configuring each pair of the first and second interfaces with a same IP and MAC address;

assigning a selected one of the first and second routers to be a designated router;

enabling the first logical interfaces when the first router is assigned to be a designated router;

enabling the second logical interfaces when the second router is assigned to be a designated router;

disabling the first logical interfaces when the first router is not assigned to be a designated router; and

disabling the second logical interfaces when the second router is not assigned to be a designated router.

17. A method as recited in claim 16, further comprising:

informing the second router about any change in a configuration of the first router's first interfaces when the first router is assigned as the designated router;

changing the configuration of the first router's first interfaces to correspond to a change in a configuration of the second interfaces when the first router is not assigned as the designated router and the first router is informed of a change in the configuration of the first interfaces so that the first interfaces have a same number and configuration as the second interfaces,

informing the first router about any change in the configuration of the second router's second interfaces when the second router is assigned as the designated router; and

changing the configuration of the second router's second interfaces to correspond to a change in the configuration of the first interfaces when the second router is not assigned as the designated router and the second router is informed of such a change in a state of the first interfaces so that the first interfaces have a same number and configuration as the second interfaces.

18. A method as recited in claim 17, further comprising managing the first and second router and the supervisor module through a control bus of the network system and

receiving and transmitting data into and out of the physical ports of the network device and through a data bus of the network device.

19. A method as recited in claim 17, further comprising polling the currently assigned designated router to determine whether the designated router has failed and when the designated router has failed, assigning another of the routers to be a designated router.

20. A method as recited in claim 17, wherein

enabling the first interfaces is accomplished by setting a link state of each first interface to an "up" value and disabling the first interfaces is accomplished by setting a link state associated with each first interface to a "down" value, and

enabling the second interfaces is accomplished by setting a link state of each second interface to an "up" value and disabling the second interfaces is accomplished by setting a link state associated with each second interface to a "down" value.

21. A method as recited in claim 20, the first and second interfaces each have an associated administrative state that may be set by a user or the supervisor module to an "up" or "down" state to thereby enable or disable, respectively, the interface, the method further comprising maintaining the same values for their interface's administrative states.

22. A method as recited in claim 21, further comprising:

communicating to the second router a change of an administrative state of a selected first interface to a "down" value when the first router is assigned as the designated router and changing the administrative state of the selected first interface to a "down" state when the second router communicates that its corresponding second interface's administrative state has been changed to a "down" state, and

communicating to the first router a change of an administrative state of a selected second interface to a "down" value when the second router is assigned as the designated router and changing the administrative state of the selected second interface to a "down" state when the first router communicates that its corresponding first interface's administrative state has been changed to a "down" state.

23. A method as recited in claim 20, further comprising:

enabling a selected first interface when a new virtual local area network (VLAN) that corresponds to one or more physical ports and the selected first interface is created in the supervisor module, a link state of the selected first interface being enabled by setting a corresponding link state to "up", when the first router is assigned as the designated router, and

enabling a selected second interface when a new virtual local area network (VLAN) that corresponds to one or more physical ports and the selected second interface is created in the supervisor module, a link state of the selected second interface being enabled by setting a corresponding link state to "up", when the second router is assigned as the designated router

24. A method as recited in claim 23, wherein the selected first interface is enabled after the first router is informed that the new VLAN has been created and the second first interface is enabled after the second router is informed that the new VLAN has been created.

25. A method as recited in claim 16, wherein the supervisor module is configured with a plurality of VLAN's that each correspond to one or more physical ports.

26. A method as recited in claim 16, wherein the first router and the second router are each configured to provide layer 3 switching when it is assigned as a designated router, and the supervisor module is configured to provide layer 2 switching.

27. A method as recited in claim 16, wherein the first and second router appear together as a single router to other neighboring routers within the computer network.

28. A method as recited in claim 16, wherein the supervisor module includes a first slot in which the first router is coupled and a second slot in which the second router is coupled.

29. A computer program product for providing data forwarding redundancy with a first router having a plurality of first logical interfaces corresponding to one or more physical ports of a network device, a second router having a plurality of first logical interfaces corresponding to one or more physical ports of the network device, and a supervisor module, the computer program product comprising:

at least one computer readable medium;

computer program instructions stored within the at least one computer readable product configured to cause a network device to:

configure each pair of the first and second interfaces with a same IP and MAC address on each interface;

assign a selected one of the first and second routers to be a designated router;

enable the first logical interfaces when the first router is assigned to be a designated router;

enable the second logical interfaces when the second router is assigned to be a designated router;

disable the first logical interfaces when the first router is not assigned to be a designated router; and

disable the second logical interfaces when the second router is not assigned to be a designated router.

30. A computer program product as recited in claim 29, the at least one computer readable product further configured to cause a network device to:

inform the second router about any change in a configuration of the first router's first interfaces when the first router is assigned as the designated router;

change the configuration of the first router's first interfaces to correspond to a change in a configuration of the second interfaces when the first router is not assigned as the designated router and the first router is informed of a change in the configuration of the first interfaces so that the first interfaces have a same number and configuration as the second interfaces,

inform the first router about any change in the configuration of the second router's second interfaces when the second router is assigned as the designated router; and

change the configuration of the second router's second interfaces to correspond to a change in the configuration of the first interfaces when the second router is not assigned as the designated router and the second router is informed of such a change in a state of the first interfaces so that the first interfaces have a same number and configuration as the second interfaces.

31. A computer program product as recited in claim 30, the at least one computer readable product further configured to cause a network device to poll the currently assigned designated router to determine whether the designated router has failed and when the designated router has failed, assigning another of the routers to be a designated router.

32. A computer program product as recited in claim 30, wherein

enabling the first interfaces is accomplished by setting a link state of each first interface to an "up" value and disabling the first interfaces is accomplished by setting a link state associated with each first interface to a "down" value, and

enabling the second interfaces is accomplished by setting a link state of each second interface to an "up" value and disabling the second interfaces is accomplished by setting a link state associated with each second interface to a "down" value.

33. A computer program product as recited in claim 32, the first and second interfaces each have an associated administrative state that may be set by a user or the supervisor module to an "up" or "down" state to thereby enable or disable, respectively, the interface, the method further comprising maintaining the same values for their interface's administrative states.

34. A computer program product as recited in claim 33, the at least one computer readable product further configured to cause a network device to:

communicate to the second router a change of an administrative state of a selected first interface to a "down" value when the first router is assigned as the designated router and change the administrative state of the selected first interface to a "down" state when the second router communicates that its corresponding second interface's administrative state has been changed to a "down" state, and

communicate to the first router a change of an administrative state of a selected second interface to a "down" value when the second router is assigned as the designated router and change the administrative state of the selected second interface to a "down" state when the first router communicates that its corresponding first interface's administrative state has been changed to a "down" state.

35. A computer program product as recited in claim 32, the at least one computer readable product further configured to cause a network device to:

enable a selected first interface when a new virtual local area network (VLAN) that corresponds to one or more physical ports and the selected first interface is created in the supervisor module, a link state of the selected first interface being enabled by setting a corresponding link state to "up", when the first router is assigned as the designated router, and

enable a selected second interface when a new virtual local area network (VLAN) that corresponds to one or more physical ports and the selected second interface is created in the supervisor module, a link state of the selected second interface being enabled by setting a corresponding link state to "up", when the second router is assigned as the designated router

36. A computer program product as recited in claim 29, wherein the first and second router appear together as a single router to other neighboring routers within the computer network.

37. An apparatus for providing data forwarding redundancy with a first router having a plurality of first logical interfaces corresponding to one or more physical ports of a network device, a second router having a plurality of first logical interfaces corresponding to

one or more physical ports of the network device, and a supervisor module, the apparatus comprising:

means for configuring the first and second routers with a same IP and MAC address on each interface;

means for assigning a selected one of the first and second routers to be a designated router;

means for enabling the first logical interfaces when the first router is assigned to be a designated router;

means for enabling the second logical interfaces when the second router is assigned to be a designated router;

means for disabling the first logical interfaces when the first router is not assigned to be a designated router; and

means for disabling the second logical interfaces when the second router is not assigned to be a designated router.

38. An apparatus as recited in claim 16, further comprising:

means for informing the second router about any change in a configuration of the first router's first interfaces when the first router is assigned as the designated router;

means for changing the configuration of the first router's first interfaces to correspond to a change in a configuration of the second interfaces when the first router is not assigned as the designated router and the first router is informed of a change in the configuration of the first interfaces so that the first interfaces have a same number and configuration as the second interfaces,

means for informing the first router about any change in the configuration of the second router's second interfaces when the second router is assigned as the designated router; and

means for changing the configuration of the second router's second interfaces to correspond to a change in the configuration of the first interfaces when the second router is not assigned as the designated router and the second router is informed of such a change in a state of the first interfaces so that the first interfaces have a same number and configuration as the second interfaces.